CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

CERTIFICATE

This is to certify that the report entitled **"Excel-Analytics System"** is a bonafide work carried out by **Heer Modi(22DIT036)** under the guidance and supervision of **Prof. Radhika Patel** for the subject **IT446 Summer Internship-II** of 7th Semester of Bachelor of Technology in **Department of Information Technology, DEPSTAR** at Faculty of Technology & Engineering – CHARUSAT, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidate himself, has duly been completed, and fulfills the requirement of the ordinance relating to the B.Tech. Degree of the University and is up to the standard in respect of content, presentation and language for being referred to the examiner.

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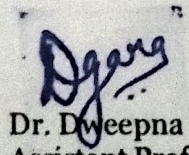

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A
Project Report
On
"Excel-Analytics"

Prepared by
Heer Modi (22DIT036)

Under the guidance of

Asst Prof. Radhika Patel

A Report Submitted to

Charotar University of Science and Technology

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7th Semester Summer Internship-II (IT446)

Submitted at

Department of Information Technology

Devang Patel Institute of Advance Technology and Research

At: Changa, Dist: Anand – 388421

July 2025

ZIDIO DEVELOPMENT

Certificate

OF INTERNSHIP

THIS CERTIFICATE IS PROUDLY PRESENTED TO

Heer Modi

This certificate proudly recognizes successful completion of the internship program at **Zidio Development** from 25-05-2025 to 25-06-2025. Your dedication, outstanding effort, and commitment to excellence have made a lasting impact, demonstrating remarkable professional growth. Awarded in recognition of your dedication, professionalism, and successful completion of the internship in the role of *Web Development*

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ACKNOWLEDGEMENT

I am sincerely grateful to everyone who contributed to the successful completion of this report on the Excel Analytics Platform developed during my internship.

First, I would like to thank my supervisor, Radhika Kasat, for their invaluable guidance, feedback, and constant support throughout the development process. I also extend my appreciation to the Human Resources department at Zidio Technologies for organizing the internship and ensuring a productive working environment.

My heartfelt thanks go to Prof. Radhika Patel, my internal guide, for his continuous encouragement, insights, and support during this journey.

This internship has been an enriching experience that helped me strengthen my skills in full-stack development, particularly with the MERN stack. I am grateful for the opportunity to be part of the team at Zidio Technologies and contribute to the development of a real-world data visualization platform.

Thank you.

ABSTRACT

During my summer internship at **Zidio Technologies**, I worked on developing a full-stack web application titled **Excel Analytics Platform**, using the MERN stack (MongoDB, Express.js, React.js, and Node.js). This project was focused on creating a dynamic and user-friendly platform that enables users to upload Excel files (.xls/.xlsx), analyze the data, and generate interactive 2D and 3D charts.

Over the course of the internship, I implemented several key features such as user and admin authentication using JWT, dynamic chart generation using Chart.js and Three.js, and Excel parsing with SheetJS. Users could select X and Y axes from uploaded data, visualize the information through various chart types, and download the generated graphs in PNG or PDF format. An upload history dashboard and optional AI integration for data insights further enhanced the platform's usability.

This internship provided me with practical, hands-on experience in full-stack development, strengthened my understanding of modern web technologies, and gave me the opportunity to build a complete data analytics solution from the ground up.

Overall, my time at **Zidio Technologies** was a valuable and enriching experience that greatly improved my technical abilities and prepared me for future roles in the field of software and web development.

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DESCRIPTION OF COMPANY

Zidio Technologies is a dynamic and innovative software development company dedicated to delivering impactful digital solutions across various domains. With a strong emphasis on engineering excellence and agile methodologies, Zidio specializes in full-stack development, data analytics, mobile and web applications, and user-centric design.

The company offers a broad spectrum of technology services including custom software development, cross-platform compatibility, data science integration, and scalable architecture solutions. Leveraging modern tools like React.js, Node.js, MongoDB, and AI technologies, Zidio empowers businesses to transform ideas into robust, user-friendly applications.

Zidio's team of skilled professionals combines technical expertise with creative problem-solving to ensure quality, performance, and adaptability. Founded in 2023 and headquartered in Bengaluru, Karnataka, the company is MCA-registered and ISO 9001:2015 certified, affirming its commitment to industry standards and client satisfaction.

Guided by a vision to shape the future of technology, Zidio Technologies fosters a culture of collaboration, continuous learning, and innovation, making it a preferred destination for emerging tech talent and forward-looking enterprises.

CHAPTER-1: PROJECT PROFILE

1.1 Project Overview

During my summer internship at **Zidio Technologies**, I worked on the development of a full-stack data visualization platform titled **Excel Analytics Platform**, designed using the **MERN stack** (MongoDB, Express.js, React.js, Node.js). The platform enables users to upload Excel files, analyze the structured data, and generate dynamic 2D and 3D charts. It includes secure authentication for users and admins, and supports exporting charts as PDF/PNG files. This project aimed to simplify Excel data visualization without requiring users to write code..

1.2 Objectives

- Enable users to upload and parse .xls or .xlsx files through a web interface.
- Allow dynamic selection of X and Y axes for data visualization.
- Provide secure user/admin login using JWT authentication.
- Generate downloadable graphs (bar, line, pie, 3D column) using Chart.js and Three.js.
- Maintain user upload history and provide optional AI-based data summaries.

1.3 Scope

- User Module: Registration, login, file upload, analysis history, chart downloads.
- Admin Module: View/manage users and data statistics.
- Excel Parser: Convert Excel data into usable JSON format.
- Chart Rendering: Visual representation using Chart.js and Three.js.
- Download Options: Charts can be downloaded in PDF or PNG formats.
- Optional AI Insight: Summarized insights from uploaded data using OpenAI API.

1.4 Methodology

- Requirement Gathering: Identified core features needed for end users and admins.
- Tech Stack Planning: Selected MERN for full-stack capabilities and modern JavaScript ecosystem.
- Module-wise Development: Created authentication, file handling, visualization, and admin panel in separate stages.
- Testing & Integration: Each module was tested independently and then integrated into the main system.

1.5 Expected Outcome

- A production-ready Excel analytics platform with an intuitive UI and secure backend.
- Smooth handling of Excel files and generation of various charts.
- Easy-to-navigate dashboards for both users and admins.
- Support for AI-based summaries for uploaded datasets.

1.6 Resources Required

- **Development Tools**: Visual Studio Code, Postman, GitHub
- **Frontend**: React.js, Redux Toolkit, Tailwind CSS
- **Backend**: Node.js, Express.js, MongoDB
- **Libraries**: SheetJS (Excel parsing), Chart.js & Three.js (Graph generation)
- **APIs (Optional)**: OpenAI API for summaries
- **Deployment Platforms**: Render (backend), Netlify (frontend)

CHAPTER-2: TOOLS & TECHNOLOGY

2.1 Software Tools

- Visual Studio Code
  A lightweight and powerful source-code editor developed by Microsoft. It includes built-in support for JavaScript, Node.js, and extensions for React and MongoDB.
  Features:
  - IntelliSense for code completion
  - Integrated terminal
  - Git version control
  - Extensions for SheetJS, Chart.js, React, etc.
- Postman
  An API platform for building and using APIs, used to test backend endpoints and ensure smooth frontend-backend integration.
- Git & GitHub
  Git was used for version control, and GitHub was used to host the project repositories and collaborate.
- Netlify & Render
  Netlify was used for frontend deployment, and Render was used for backend deployment.

2.2 Programming Languages & Libraries

- HTML/CSS/JavaScript
  Used for the foundational structure and design of the user interface.
- React.js
  A JavaScript library used to build reusable UI components. Ideal for rendering charts and managing dynamic form data.
  Features:
  - Component-based architecture
  - Virtual DOM for faster rendering
  - State and props management
- Node.js & Express.js
  Used for creating RESTful APIs and handling server-side logic.
- MongoDB
  NoSQL database used to store user credentials, file metadata, and upload history.
- SheetJS (xlsx)
  A library used to parse Excel files and convert the contents into JSON for further analysis.
- Chart.js & Three.js
  Chart.js was used for 2D charts like bar, pie, and line. Three.js enabled rendering of 3D visualizations such as 3D column graphs.

2.3 Documentation Tools

- Microsoft Word
  Used to create and compile the internship report, including formatting, adding figures, and inserting tables.

CHAPTER-3: SYSTEM ANALYSIS

3.1 SYSTEM FEATURES

3.1 Requirements Gathering

- User Requirements
  - Upload Excel files with ease
  - Select chart type and axes
  - View analysis history
  - Download graphs
- Admin Requirements
  - Monitor system usage
  - Manage user access
  - View data analytics dashboard

3.2 Feasibility Study

3.2.1 Technical Feasibility

- The MERN stack is well-supported and integrates smoothly for full-stack applications.
- Required tools such as SheetJS and Chart.js are open-source and compatible.
- Hosting platforms like Netlify and Render simplify deployment.

3.2.2 Operational Feasibility

- The team had prior experience with JavaScript and Node.js.
- Tutorials and documentation were followed to integrate libraries.
- GitHub facilitated version control and collaboration.

3.3.3 Economic Feasibility

- No major costs incurred due to open-source libraries and free deployment services.
- The project added high value in terms of skill enhancement and usability.

3.3.4 Legal and Ethical Feasibility

- No copyrighted libraries were used without permission.
- User data was securely handled using encrypted authentication tokens.

3.3.5 Schedule Feasibility

Completed in a 6-week timeframe with a structured weekly timeline:

- Week 1–2: Setup, authentication, Excel upload, parsing
- Week 3–4: Chart rendering, history
- Week 5–6: Admin panel, Testing, and deployment

CHAPTER-4: RESULTS [OUTPUT]

4.1 Login Page

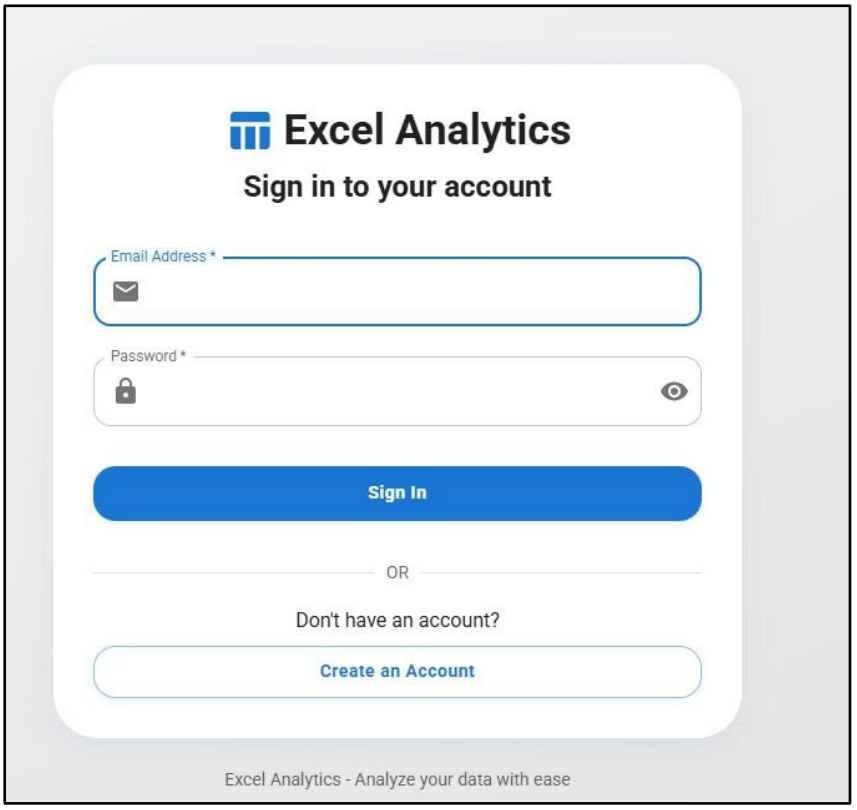

Fig 4.1. LANDING PAGE(NAV BAR)

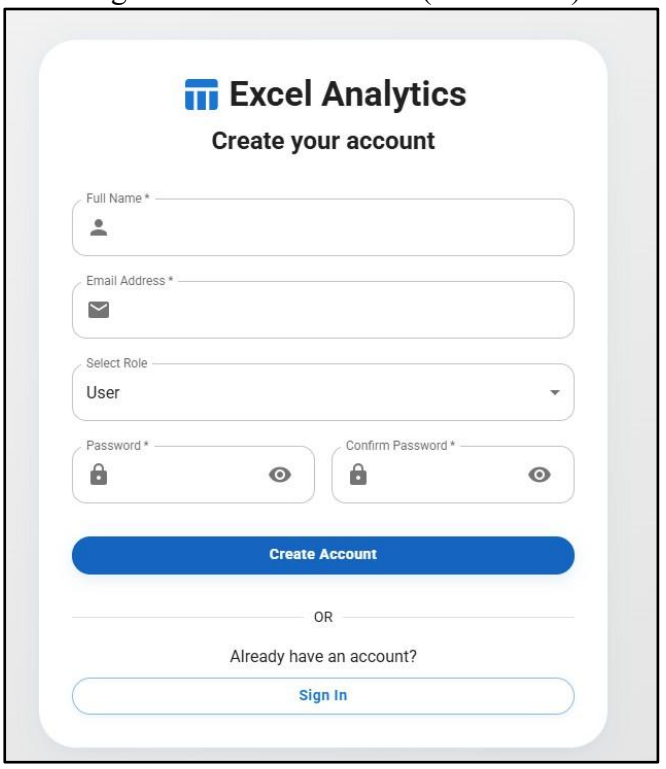

Fig 4.2 LANDING PAGE

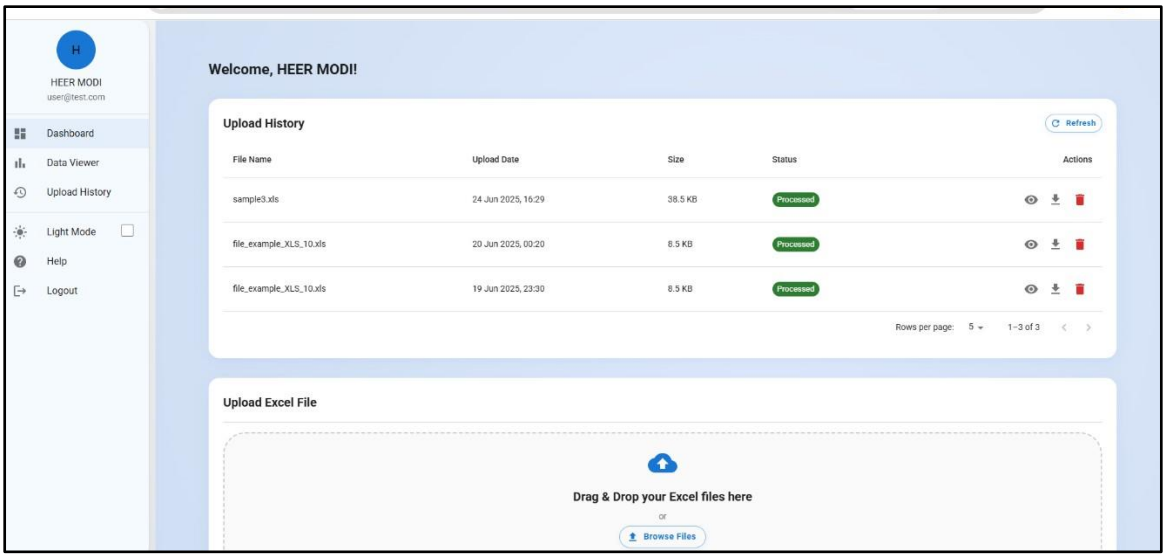

Fig. 4.3 User Dashboard

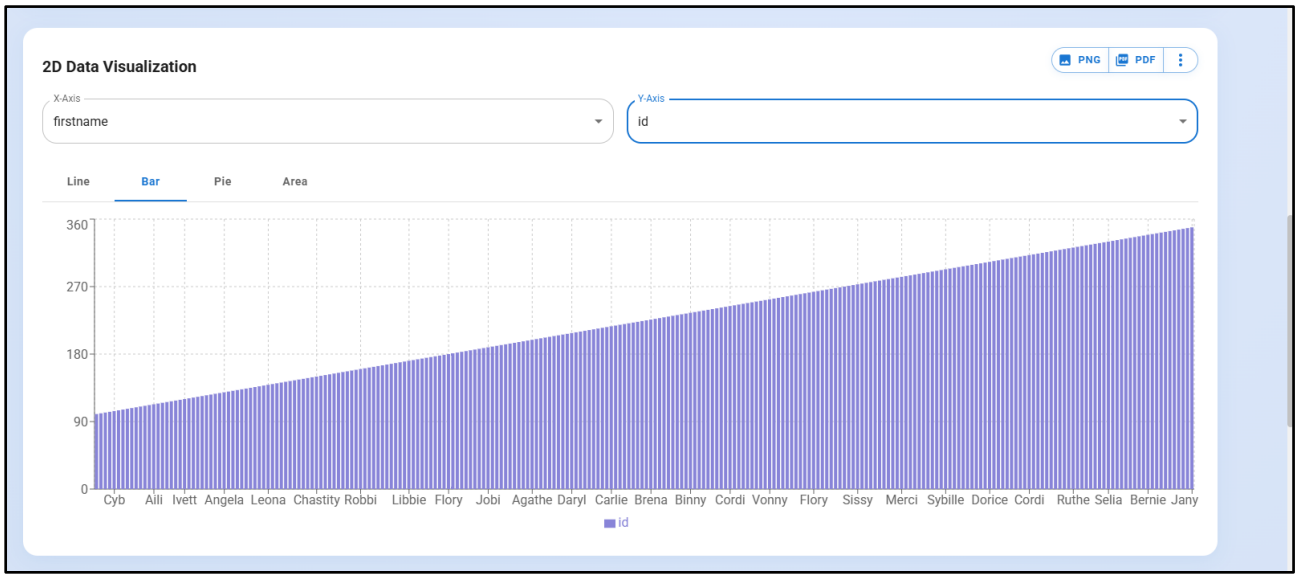

Fig 4.4 2D chart

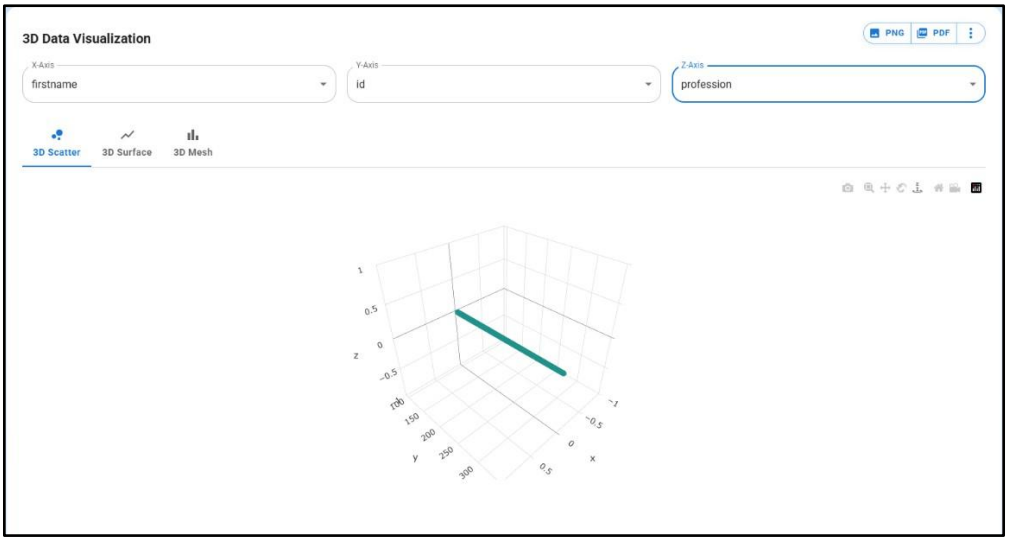

Fig 4.5. 3D chart

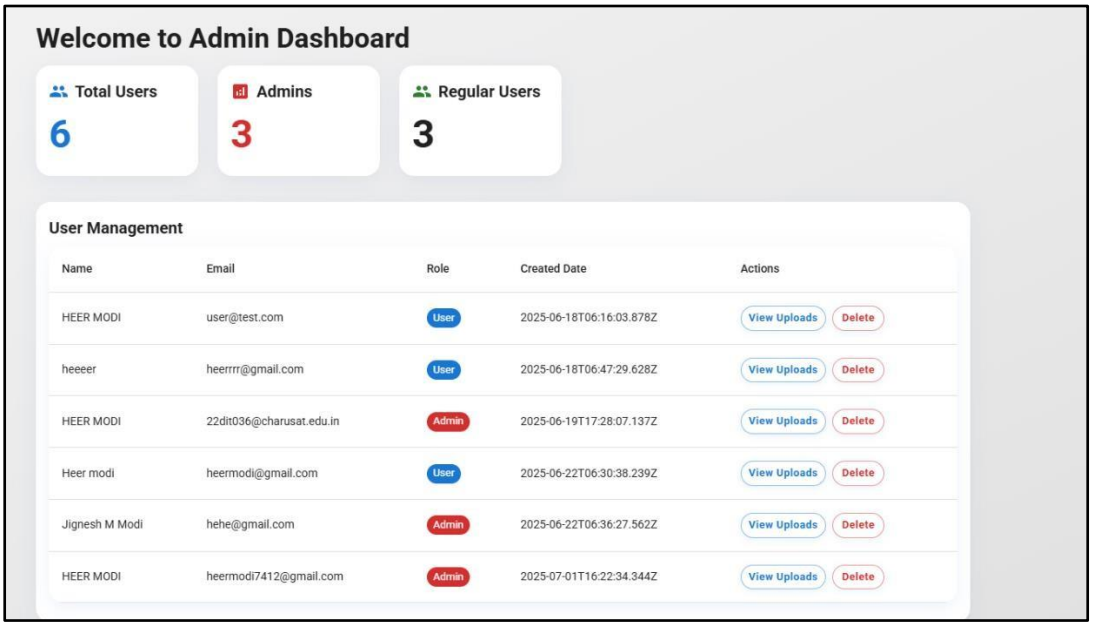

Fig 4.6 Admin Dashboard

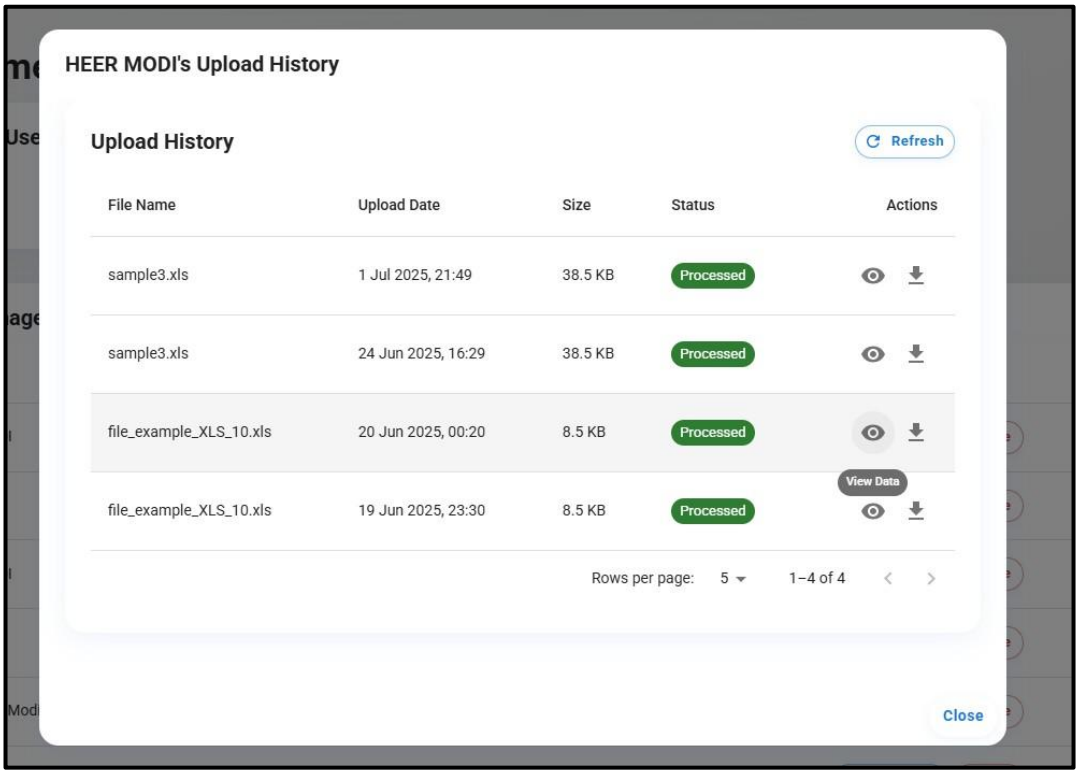

Fig 4.7. uploaded

CONCLUSION AND FUTURE WORK

My internship at **Zidio Technologies** provided invaluable hands-on experience with modern web development technologies. The **Excel Analytics Platform** allowed me to explore the full cycle of software development, from frontend interface building to backend API design and database integration.
I enhanced my skills in the MERN stack, gained expertise in Excel data parsing and charting libraries like SheetJS and Chart.js, and understood the importance of secure and scalable architecture. Working with real-world requirements and deployment tools gave me a clearer picture of how professional applications are built and maintained.

Looking ahead, there are several ways in which the Excel Analytics Platform can be further improved to enhance its functionality, user experience, and scalability. One of the key enhancements would be to add support for additional file formats such as CSV and integration with Google Sheets, allowing users more flexibility in uploading and analyzing data. Implementing real-time collaboration features would enable multiple users to work on the same dataset simultaneously, fostering teamwork and increasing productivity. Additionally, enhancing the user interface with a drag-and-drop mechanism and introducing accessibility options, including a dark mode, would make the platform more intuitive and inclusive for diverse users.

To expand the analytical capabilities of the platform, the optional AI insights module can be upgraded to offer predictive analysis and automated recommendations based on the uploaded data. This would transform the tool from a simple data visualization platform into a smart analytics assistant. Furthermore, optimizing performance for large datasets and ensuring responsive design across all devices would ensure a seamless experience for users across different environments. These enhancements would significantly elevate the platform's effectiveness and position it as a robust tool in the field of data analytics and visualization.

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[9] Codevolution (YouTube): https://www.youtube.com/c/Codevolutio